

Cayuga Lake Lake Trout Wounding (Survey #:721032)

Emily Zollweg-Horan, Region 7 Fisheries

5/26/2022

Cayuga Lake extends northward from the city of Ithaca through Tompkins, Cayuga and Seneca counties. At 43,560 acres, Cayuga Lake ranks second in size behind Seneca Lake, among the Finger Lakes. Cayuga Lake offers a diverse fishery for both coldwater and warmwater species. Cayuga Lake has a shallow, weedy area at its north end which extends south for approximately six miles and occupies 5,800 acres. The remainder of the lake is deep and supports a coldwater trout and salmon fishery. Many of Cayuga's tributaries also provide fisheries for rainbow trout in the spring and landlocked salmon and brown trout in the fall. Boat launching is available at four state parks and a DEC launch at Mud Lock, as well as numerous private and municipal marinas around the lake. Management concerns range from nutritional deficiencies leading to spawning failures amongst salmonids, viral hemorrhagic septicemia disease outbreaks, invasive round goby impacts to the food web, and the subject of this survey, the impact of the nuisance species, sea lamprey, on native lake trout.

Multifilament gill nets are set each fall in the first week of October by DEC hatchery crews to capture lake trout near Taughannock State Park for the lake trout "egg take", and regional staff take the opportunity to get length, fin clip, and sea lamprey wounding data on as many lake trout as time allows. A sample size of 300 lake trout is preferred, but when time and space on the boat are limited, 100 lake trout with an emphasis on fish in the index size range is acceptable. All the data collected in this survey were from 26 overnight gill net sets during the three days of collections.

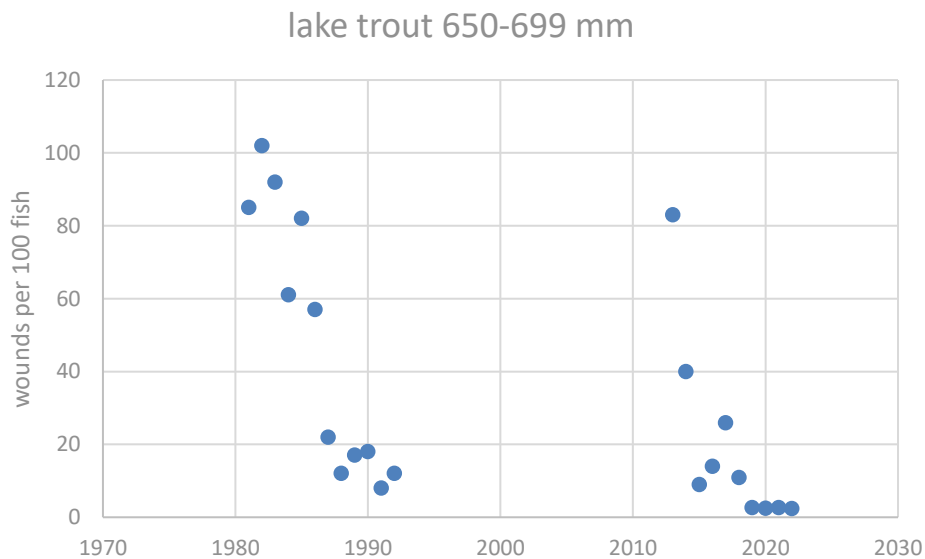


Figure 1. Sea lamprey wounding rates for large (650-699 mm) lake trout caught in the fall during lake trout egg take on Cayuga Lake.

Sea lamprey wounding data is recorded from all sizes of lake trout but those in the 25.6-27.5 inch (650-699 mm) size range are used for the fall wounding rate index. Data were not collected for the 1993-2012 fishing seasons. In October 2021, a total of 345 lake trout were examined for sea lamprey wounds including 127 that were in the index size range. For lake trout in the index size range, the rate was 2.4 active wounds per hundred fish, which is nearly identical to the rate observed during the 2015 summer lake trout netting (3 wounds per hundred fish, not shown above), and well within our management objective of less than 20 wounds per hundred. Results of this survey indicate that the 2020 lampricide treatment of Cayuga Inlet, which targeted juvenile sea lamprey, has resulted in a significant reduction of the adult sea lamprey population of Cayuga Lake.



Sea lamprey control is essential for maintaining a viable coldwater fishery in Cayuga Lake. We will continue to monitor sea lamprey wounding rates on both rainbow trout at the Cayuga Inlet Fishway and lake trout during future egg takes. In addition, staff will continue to monitor for the presence of sea lamprey spawning and/or larval survival in Cayuga Inlet since, if left uncontrolled, it is by far the largest source of sea lamprey in Cayuga Lake. If a larval population of sea lamprey becomes established in Cayuga Inlet, we will need to consider a lampricide treatment of Cayuga Inlet.



Figure 2. Lake trout with an older sea lamprey wound which mostly healed.